

No. 819,142.

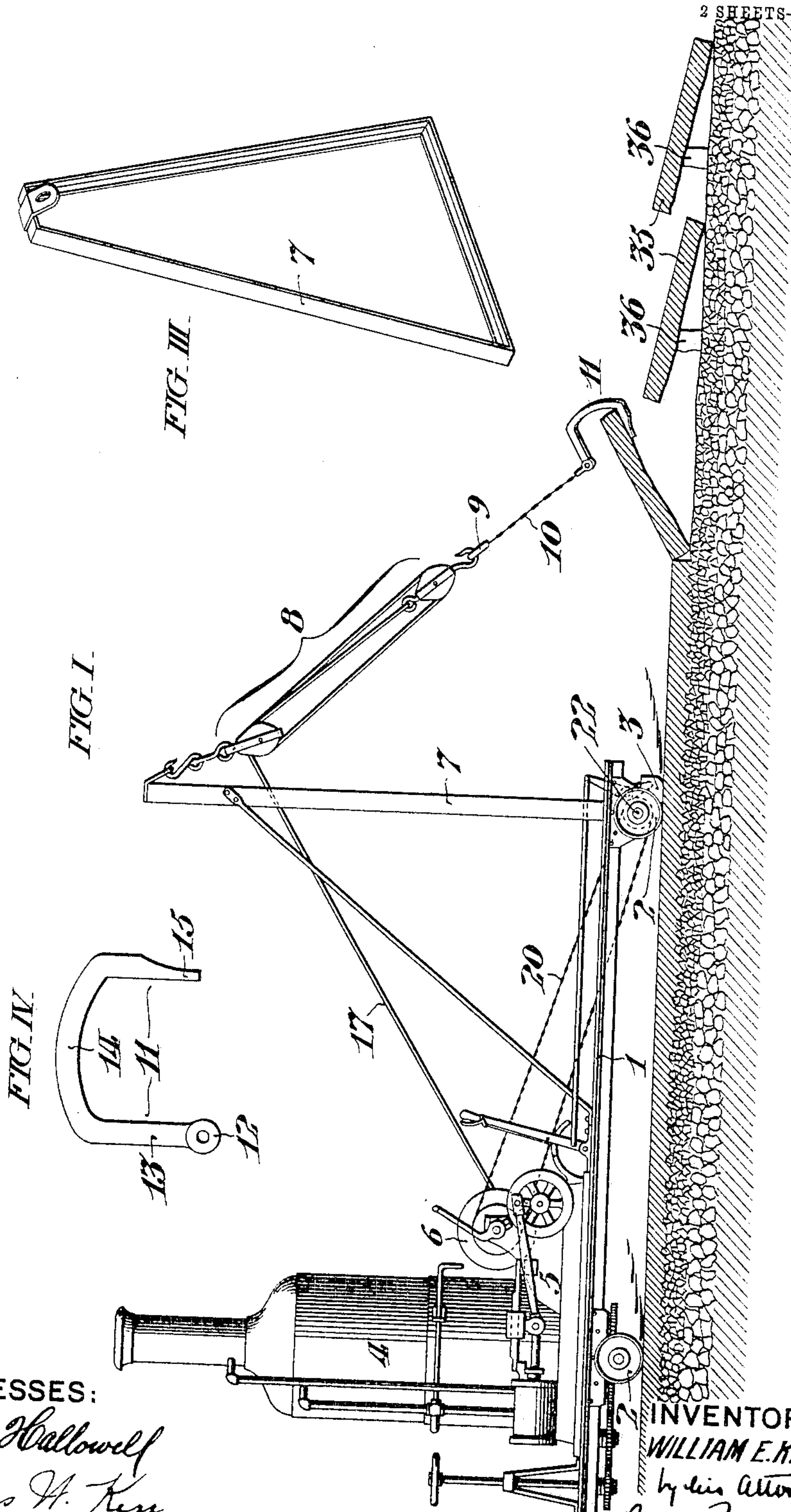
PATENTED MAY 1, 1906.

W. E. KERNS.

APPARATUS FOR RAISING ASPHALT PAVEMENT.

APPLICATION FILED AUG. 7, 1905.

2 SHEETS—SHEET 1.



WITNESSES:
Clifton C. Hollowell
Thomas H. Kern

INVENTOR:
WILLIAM E. KERNS,
by his Attorneys
Raige Paul & Freely

No. 819,142.

PATENTED MAY 1, 1906.

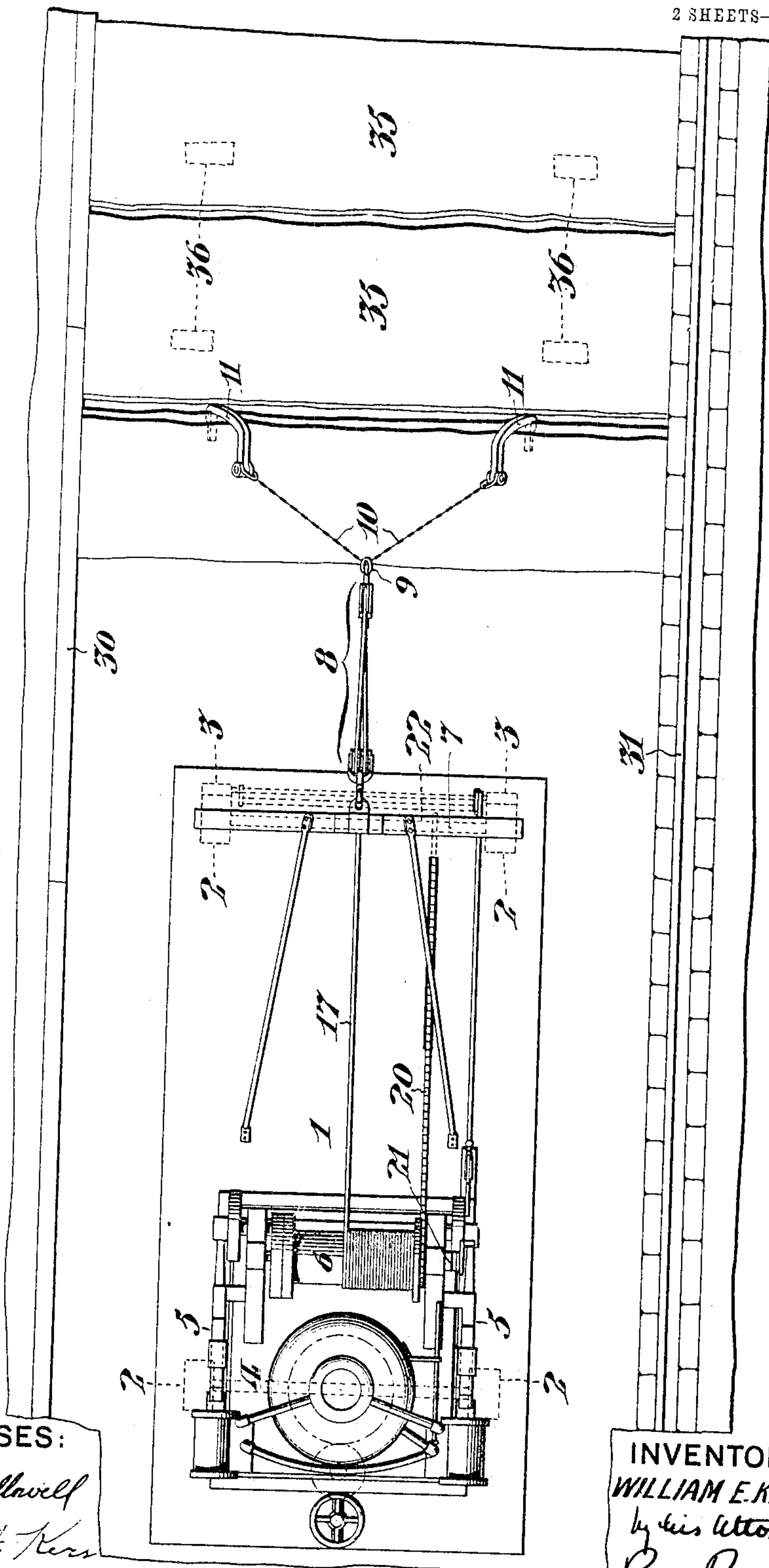
W. E. KERNS.

APPARATUS FOR RAISING ASPHALT PAVEMENT.

APPLICATION FILED AUG. 7, 1905.

2 SHEETS—SHEET 2.

FIG. II.



WITNESSES:

Clifton C. Halliwell
Thomas H. Kern

INVENTOR:

WILLIAM E. KERNS,
by his attorneys
Raise Paul & Jones

UNITED STATES PATENT OFFICE.

WILLIAM E. KERNS, OF FOX CHASE, PENNSYLVANIA, ASSIGNOR TO THE
BARBER ASPHALT PAVING COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF WEST VIRGINIA.

APPARATUS FOR RAISING ASPHALT PAVEMENT.

No. 819,142.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed August 7, 1905. Serial No. 272,944.

To all whom it may concern:

Be it known that I, WILLIAM E. KERNS, of Fox Chase, in the county of Philadelphia and State of Pennsylvania, have invented certain
5 new and useful Improvements in Apparatus for Raising Asphalt Pavements, of which the following is a specification, reference being had to the accompanying drawings.

Heretofore when it has become necessary
10 to take up the surface of an asphalt pavement it has been the practice to pry it up piece by piece with crow-bars operated manually. Owing to the tenacity with which the surface layer of the pavement clings to the founda-
15 tion below, this operation entails a very considerable amount of labor and is very slow. It is usually necessary in order to raise even a small piece to first delimit it by partially cutting around its edge with a sharp tool.

20 By the use of my invention it is possible in an ordinary city street to raise asphalt pavement in large pieces extending from curb to track, and this is accomplished rapidly and with a minimum expenditure of labor, no de-
25 limitation of the pieces being necessary.

The form of my invention hereinafter described comprises a rolling platform upon which is mounted an engine or other motor and a hoisting mechanism operated by the
30 engine comprising a plurality of large hooks by means of which the large pieces of asphalt are raised and broken off. Said platform is also conveniently arranged to be self-propelled by means of said motor.

35 In the accompanying drawings, Figure I represents in elevation an apparatus embodying my invention, a portion of the street-pavement being shown in section in order to illustrate the method of operation of the de-
40 vice. Fig. II is a plan view of the same. Fig. III is a perspective view of a portion of the derrick. Fig. IV is a side elevation of one of the hooks.

My apparatus comprises a platform 1,
45 mounted upon flat-tired wheels or rollers 2 2, capable of being blocked by the brake-shoe 3. Upon the platform is mounted a steam-boiler 4, supplying steam to a donkey-engine 5, which operates a winch 6, all of which parts
50 appear in the drawings and need not be more particularly described. The boiler and engine are mounted as far to the front of the platform as practicable in order that they

may counterweight the platform when the derrick is in operation. At the rear end of
55 the platform is mounted a triangular frame 7, from the apex of which is suspended the hoisting-tackle 8. To the fall-block of the tackle is attached a ring 9, which carries two chains 10 10, to the ends of which are attached
60 large hooks 11, more fully shown in Fig. IV. Each hook comprises a pivot-head 12, a shank 13, a bight 14 at right angles to the shank, and a point 15 at right angles to the
65 bight.

The rope 17 of the hoisting-tackle extends to the winch 6 and is arranged to be wound up by it. The entire apparatus may be self-propelled by said engine 5, the sprocket-chain 20 connecting the axle 22 of the rear
70 wheels with the shaft of the winch 6 and the latter being provided with the clutch 21, by means of which the engine and the axle 22 may be connected or disconnected.

In the operation of my device I find that it
75 is possible in an ordinary city street to raise the pavement in sheets extending from the curb to the car-track, assuming this distance to vary from eight to twelve feet, according to the circumstances. In the drawings I
80 have illustrated the position and shape of the pieces as raised by my device. The curb-stone of the street is represented at 30, and at 31 the proximate car-track.

In beginning operations a single cut must
85 first be made in the surface from curb to track down to the foundation. The apparatus is then brought into proper position and the two hooks 11 are inserted in the cut with their points beneath the asphalt surface, each being
90 so placed as to divide the distance from curb to track into three more or less equal portions. The winch now winds up the hoisting-tackle, and it will be found that the entire width of the asphalt surface will be raised, the piece
95 first curving up and then breaking off in a line substantially parallel to the original cut. The size of the piece thus raised and broken off will vary, according to the strength of the asphalt surface and the position of the hoist-
100 ing mechanism; but I have found by experience that, as a rule, it is possible to raise a piece having a width of, say, ten feet and a length of about four feet. Before the piece thus raised has been lifted to a right angle a
105 sharp cleavage will have been effected be-

tween it and the remaining pavement. As soon as this occurs the hoisting is stopped, and a stone 36 or broken piece of pavement is thrown beneath the partially-raised piece.

5 The tackle is then again lowered, when the broken-off piece will tilt itself back into the position shown in Fig. I at 35 35, thereby permitting the ready insertion of the hooks under the edge of the unbroken surface for the
10 purpose of raising the next piece.

Having thus described my invention, I claim—

1. An apparatus for raising the surface of asphalt pavement which consists of a movable platform carrying an engine-derrick and
15 hoisting-tackle, and having attached to the fall-block of the tackle a plurality of chains with hooks on their ends capable of insertion beneath the surface of the pavement.

20 2. An apparatus for raising the surface of asphalt pavement which consists of a mov-

able platform carrying an engine-derrick and hoisting-tackle, and having attached to the fall-block of the tackle a pivoted hook with shank, bight and point at right angles to
25 each other.

3. An apparatus for raising asphalt pavement, which comprises a movable platform arranged to be supported by and to traverse
30 said pavement; means carried by said platform, arranged to overhang and engage the edge of said pavement; and, means carried by said platform, arranged to uplift said engaging means and said pavement, substantially
35 as set forth.

In testimony whereof I have hereunto signed my name, at Philadelphia, Pennsylvania, this 3d day of August, 1905.

WILLIAM E. KERNS.

Witnesses:

JAMES H. BELL,
E. L. FULLERTON.